

# THERMOSTATIC MIXING VALVE

## BASIC SERIES VTA320, VTA520

The ESBE thermostatic mixing valves series VTA320/VTA520 offer high flow capacity and good functionality for universal applications, such as domestic hot water with or without HWC (hot water circulation) and smaller underfloor heating circuits.

### OPERATION

Series VTA320/VTA520 are the number one choice for domestic hot water systems requiring an in-line scald safe\* function and where further temperature control devices have been installed at the water taps. These series of valves are also suitable for domestic hot water installations equipped with HWC (hot water circulation).

Series VTA320/VTA520 are suitable for under floor heating applications, as long as special attention is paid to temperature range and flow requirements.

### FUNCTION

Asymmetrical flow pattern. Scald safe\*.

### VERSIONS

The product range includes a wide choice of valves delivered with adapter fitting kits, each including three adapter fittings and two check valves, which facilitate easy installation and maintenance.

Supplied with a top cover, unless otherwise stated.

\*) Scald safe means that in the case of a cold water failure, the hot water supply shuts off automatically.

### MEDIA

These valves can handle the following types of media:

- Fresh water / Potable water
- Closed systems
- Water with antifreeze additive (glycol ≤ 50% mixture)



VTA320  
Internal thread



External thread



Compression fitting



VTA520  
External thread



With adapters,  
external thread



With adapters,  
compression fitting

### VALVES ARE DESIGNED FOR

Series	Temperature range					Application
	20 - 43°C	30 - 70°C	35 - 60°C	45 - 65°C	50 - 75°C	
VTA320	○	●	●			Potable water, in line
VTA520	○			●	●	
VTA320						Potable water, point of use
VTA520						
VTA320		○	○			Solar heating
VTA520				○	○	
VTA320						Cooling
VTA520						
VTA320	○	○	○			Floor heating
VTA520	○			○		

● recommended ○ secondary alternative

### TECHNICAL DATA

Pressure class: \_\_\_\_\_ PN 10  
 Working pressure: \_\_\_\_\_ 1.0 MPa (10 bar)  
 Differential pressure: \_\_\_\_\_ Mixing, max. 0.3 MPa (3 bar)  
 Pressure drop diagram: \_\_\_\_\_ see catalogue page 127  
 Media temperature: VTA320, VTA520 \_\_\_\_\_ max. 95°C  
 VTA520 \_\_\_\_\_ temporarily max. 100°C  
 Temperature stability: VTA320 \_\_\_\_\_ ±2°C\*  
 VTA520 \_\_\_\_\_ ±4°C\*\*  
 Connection: \_\_\_\_\_ Internal thread (Rp), EN 10226-1  
 \_\_\_\_\_ External thread (G), ISO 228/1  
 \_\_\_\_\_ External thread (R), EN 10226-1  
 \_\_\_\_\_ Compression fitting (CPF), EN 1254-2

\* Valid at unchanged hot/cold water pressure, minimum flow rate 4 l/min. Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

\*\* Valid at unchanged hot/cold water pressure, minimum flow rate 9 l/min. Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

#### Material

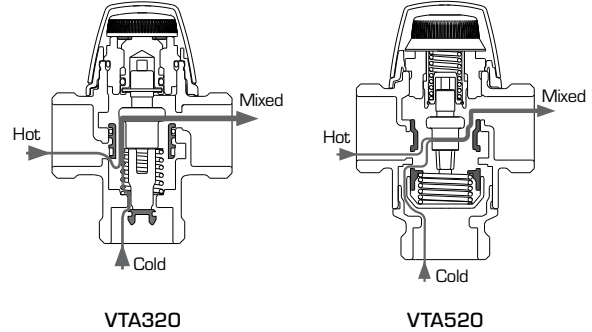
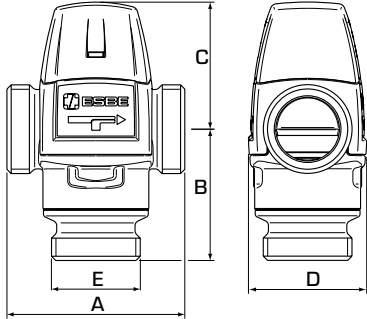
Valve housing and other metal parts with fluid contact:  
 \_\_\_\_\_ Dezincification resistant brass, DZR

PED 2014/68/EU, article 4.3

Pressure Equipment in conformity with PED 2014/68/EU, article 4.3 (sound engineering practice). According to the directive the equipment shall not carry any CE-mark.

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## BASIC SERIES VTA320, VTA520



### ➤ SERIES VTA321, INTERNAL THREAD

Art. No.	Reference	Temp. range	Kvs *	Connection E	A	Dimension			Note	Weight [kg]
						B	C	D		
31100300	VTA321	20 - 43°C	1.5	Rp 1/2"	70	42	52	46		0.45
31100700			1.6	Rp 3/4"						0.48
31100400	VTA321	35 - 60°C	1.5	Rp 1/2"	70	42	52	46		0.45
31100800			1.6	Rp 3/4"						0.48

### ➤ SERIES VTA322/VTA522, EXTERNAL THREAD

Art. No.	Reference	Temp. range	Kvs *	Connection E	A	Dimension			Note	Weight [kg]
						B	C	D		
31102800	VTA322	20 - 43°C	1.2	G 1/2"	70	42	52	46		0.41
31100500			1.5	G 3/4"						0.45
31100900			1.6	G 1"						0.48
31620100	VTA522		3.2	G 1"	84	62	60	56		0.86
31620400			3.5	G 1 1/4"						0.95
31103200	VTA322	30 - 70°C	1.6	G 1"	70	42	52	46		0.53
31102900	VTA322	35 - 60°C	1.2	G 1/2"	70	42	52	46		0.41
31100600			1.5	G 3/4"						0.45
31101000			1.6	G 1"						0.48
31104700	VTA322	45 - 65°C	1.6	G 1"	70	42	52	46		0.55
31620200	VTA522		3.2	G 1"	84	62	60	56	0.86	
31620500			3.5	G 1 1/4"					0.95	
31620300	VTA522	50 - 75°C	3.2	G 1"	84	62	60	56		0.86
31620600			3.5	G 1 1/4"						0.95

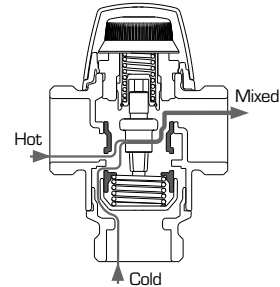
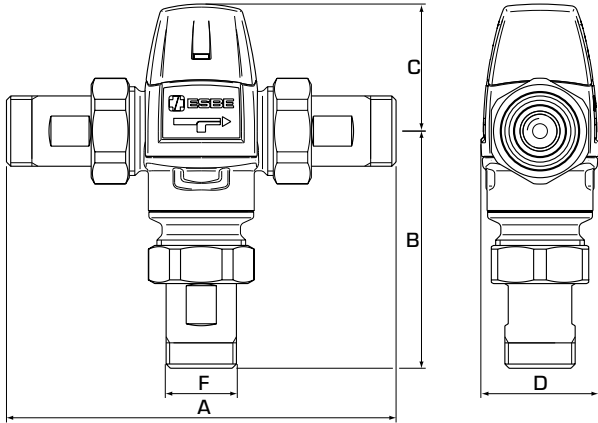
### ➤ SERIES VTA323, COMPRESSION FITTINGS

Art. No.	Reference	Temp. range	Kvs *	Connection E	A	Dimension			Note	Weight [kg]
						B	C	D		
31102600	VTA323	20 - 43°C	1.2	CPF 15 mm	86	50	52	46	1)	0.49
31100100			1.5	CPF 22 mm						0.57
31102700	VTA323	35 - 60°C	1.2	CPF 15 mm	86	50	52	46	1)	0.49
31103900			1.5	CPF 18 mm						0.66
31100200			1.5	CPF 22 mm						0.57

\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar. CPF = compression fitting  
 Note 1) A non-return valve for the cold water is included.

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## BASIC SERIES VTA320, VTA520



VTA520

### ➔ SERIES VTA522/VTA523, WITH ADAPTERS

Art. No.	Reference	Temp. range	Kvs *	Connection F	A	Dimension			Note	Weight [kg]
						B	C	D		
31620700	VTA522	20 - 43°C	3.0	R 3/4"	154	97	60	56	2)	1.22
31621300	VTA523			CPF 22mm	180	110				1.42
31621000	VTA522		3.4	R 1"	164	102				1.59
31621600	VTA523			CPF 28mm	204	122				1.90
31620800	VTA522	45 - 65°C	3.0	R 3/4"	154	97	60	56	2)	1.22
31621400	VTA523			CPF 22mm	180	110				1.42
31621100	VTA522		3.4	R 1"	164	102				1.59
31621700	VTA523			CPF 28mm	204	122				1.90
31620900	VTA522	50 - 75°C	3.0	R 3/4"	154	97	60	56	2)	1.22
31621500	VTA523			CPF 22mm	180	110				1.42
31621200	VTA522		3.4	R 1"	164	102				1.59
31621800	VTA523			CPF 28mm	204	122				1.90

\* Kvs-value in m<sup>3</sup>/h at a pressure drop of 1 bar. CPF = compression fitting  
 Note 2) Two check valves for both hot and cold water are included

### INSTALLATION EXAMPLES

See the catalogue section "How to choose the correct installation/ position" for further information and connection examples.

